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(71) Applicant (for all designated States except US): **CON-  
SIGLIO NAZIONALE DELLE RICERCHE [IT/IT]**;  
P.le Aldo Moro 7, I-00185 Roma (IT).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **PAGLIARO, Mario**  
[IT/IT]; Viale del Fante 50, I-90146 Palermo (IT). **CIR-  
IMINNA, Rosaria [IT/IT]**; Via Guadagna 1/o, I-90124  
Palermo (IT).

(74) Agents: **BAZZICHELLI, Alfredo et al.**; c/o Società Ital-  
iana Brevetti S.p.A., Piazza di Pietra 39, I-00186 Roma  
(IT).

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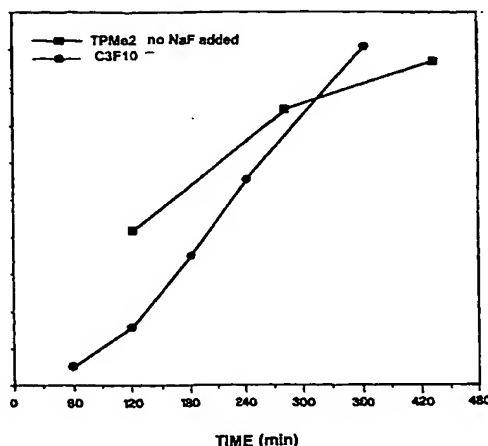
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BON DIOXIDE, PROCESS FOR THE PRODUCTION THEREOF AND THEIR USE IN OXIDATIVE CONVERSIONS**



Aerobic benzyl alcohol oxidation to benzaldehyde in  $scCO_2$   
on TPAP trapped in C3-F-10 10% propyl-fluorinated silicium oxide  
matrices (rounded points) and 50% methylated TPAP-Me2  
(square points)

(57) Abstract: Nanohybrid sol-gel materials, based on silica (ormosil) and doped with the ruthenium species tetra-*n*-propylam-  
monium perruthenate (TPAP) are highly efficient catalysts for the selective oxidation of alcohols to carbonyls with oxygen at low  
pressure, in organic solvents as well as in carbon dioxide in supercritical state are described. Optimal conditions for the preparation  
and use thereof in liquid-phase as well as in supercritical  $CO_2$  were set by studying the structure-activity relationships of the mate-  
rials, with particular reference to the surface hydrophobic/hydrophilic properties and to the textural ones.



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